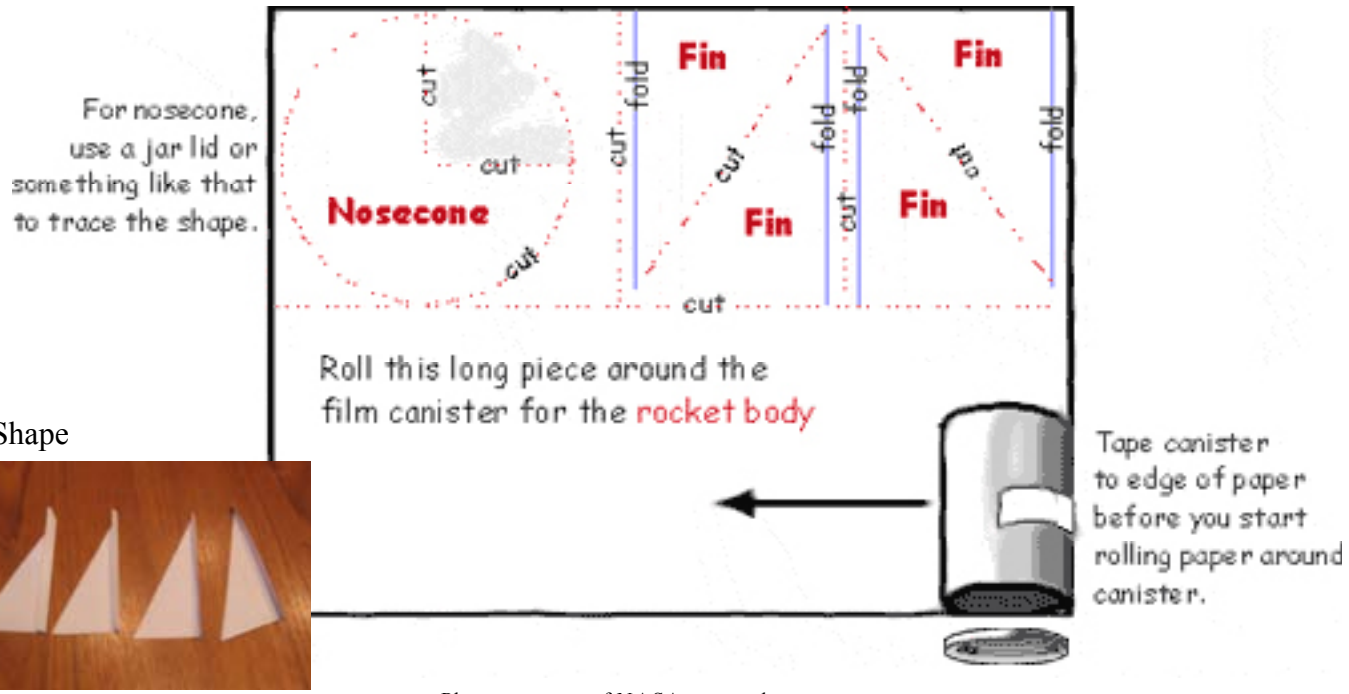
THE WONDER TRAIL
AT THE INDIANA STATE FAIR

GRAND HALL SPACE ROCKET

This year at the Indiana State Fair, there is an exhibit celebrating how Indiana as a state has helped further space discovery. See how rockets are powered by building this bubble-powered rocket! Make sure to grab an adult to help you!

Materials Needed:
Computer or Notebook Paper
Plastic Film Canister (if you don't have one, check the nearest film store to see if they have extras to give away!)
Tape (The lighter weight, the better-your rocket will fly higher!)
Scissors
Fizzing antacid tablet
Paper Towels
Water
Eye protection- goggles, sun glasses, etc.

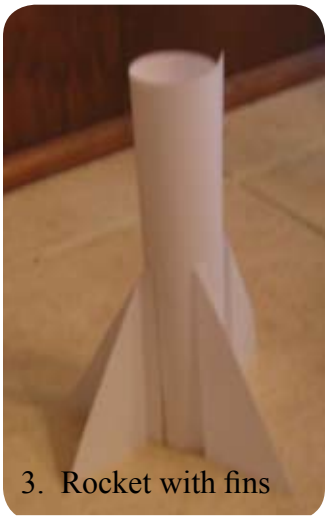
Instructions:
1. Cut out the pieces for your rocket. Below is an example of how you can decide how to cut the pieces out, but try to think of other, creative ways to make your rocket even better!



Fin Shape

Photo courtesy of NASA space place

2. Tape one end of the paper to the film canister; wrap the remaining paper around the canister, and tape again.


3. Rocket with fins

3. Place the lid/top end of the canister down, and tape fins (optional) to the non-lid/bottom end of the canister.

4. Cut a wedge from the circle, and roll it into a nosecone. Tape the nosecone to the closed end of the rocket.


4. Nose Cone

5. Put on your eye protection.

6. Remove the lid of the canister and fill the canister about 1/3 of the way with water.

7. Drop ½ of an antacid tablet into the canister and snap the lid on tight (Do this quickly!!!)


5. Prepare For Blast Off!

8. Stand your rocket on a launch platform (sidewalk or driveway)

9. Stand back and wait for your rocket to blast off!

After you've made your first rocket, experiment with different sizes of rockets-short and fat, tall and skinny, etc. and size and shape of fins. What makes the best rocket? Why?

What makes the rocket blast off?
The antacid tablet fizzes in the water and releases bubbles. The bubbles need somewhere to go, but the canister can't grow to give them room, so they push through the top! The energy released from the bubbles makes the rocket fly high!

Why is this similar to a real rocket ship?
A real rocket ship uses rocket fuel in the same way your rocket uses bubbles for power!